

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1 – 15. (cancelled)

16. (original) A method for estimating an exotherm across a NOx-reducing catalyst coupled downstream of an internal combustion engine, comprising:  
providing an indication that a catalyst temperature is above light-off;  
in response to said indication, increasing reductant injection into the catalyst by a predetermined amount; and  
calculating an expected exotherm based on said predetermined increased reductant injection amount and on an amount of reductant stored in the catalyst.

17. (original) The method as set forth in Claim 16 wherein the NOx-reducing catalyst is an ALNC.

18. (original) The method as set forth in Claim 16 wherein the NOx-reducing catalyst is an oxidation catalyst.

19. (original) The method as set forth in Claim 16 wherein said reductant is hydrocarbon.

20. (original) The method as set forth in Claim 16 further comprising calculating an actual exotherm based on at least a temperature measurement downstream of said catalyst.

21. (original) The method as set forth in Claim 20 further comprising providing an indication of catalyst degradation based on a comparison of said actual and said expected change in said exotherm.

22-23. (cancelled)